

Amendments to the Specification:

Please delete paragraph [0015].

Please add paragraph [0015] as shown below:

[0015] Figure 5 is an electric machine made using a soft magnetic carrier to direct the magnetic flux from the permanent magnets through a planar coil.

Please delete paragraph [0016] if still present in the application.

Please add paragraph [0016] as shown below:

[0016] The present invention will be described through a series of drawings, which illustrate the manufacture of a permanent magnet motor. Other items such as generators, solenoids, actuators and sensors may be manufactured using the same or similar technique and equipment and are included within the invention described herein. The following elements are a word list of the items described in the drawings and are reproduced to aid in understanding the invention:

Please amend paragraph [0048] as shown below:

[0048] The second ingredient for a range of electromagnetic devices to be fabricated by cold-spraying processes is a permanent magnet deposit. Since cold-sprayed iron forms a soft magnet having a saturation magnetization approaching that of pure iron, it is possible to form a permanent magnet from the pure iron material by exposure to high magnetic fields. This process is used to produced conventional cast iron magnets for low-cost, low-performance applications. Alternatively, improved and higher strength permanent magnets in layer or coating form can be developed through a manner of the cold spray process in which a composite structure is achieved by spraying an admixture of a permanent magnet material

powder (e.g. neodymium-iron-boron ($\text{Fe}_{14}\text{Nd}_2\text{B}$), Al--NiCo, Sm--Co₅, and samarium-iron-nickel) and suitable ferromagnetic binder such as pure iron, nickel or cobalt, which are known to be sprayable by the cold-gas or related process. Layers so deposited will be in a non-magnetic condition, so it will be necessary as a process step to use high magnetic fields to induce a permanent magnet moment in the resulting structure.

Please delete paragraph [0058].

Please Added paragraph [0058] as shown below:

[0058] Illustrated in figure 5 is a cross-sectional view of a spray-deposited permanent magnet array 36 and a planer coil 38 produced by the method described above. If the coil 38 is integrally assembled with the moving element or "rotor", then the electrical EMF must be extracted through some type of mechanical commutator arrangement which is well-known in the art (e.g., DC motor/generator). Alternatively, the moving permanent magnet array can be envisioned with a stationary coil set obviating the need for a commutator (e.g., brushless permanent magnet motor/generator). It will be apparent that integral permanent magnets developed by a simple spray process could be incorporated into various moving features of the motor with planar coils arranged adjacently to extract electrical power as required, or to produce resultant forces which could act as a braking or accelerating elements.

Please delete paragraph [0059].

Please add paragraph [0059] as shown below:

[0059] The motor 40 is made from a support 42 secured to the core 44. Depending on the physical requirements of the motor 40, the support 42 may be eliminated. This is useful if the permanent magnets 36 are directly applied to a motor component such as the motor housing or the rotor. The core 44 may be optimized to conduct the magnetic flux 50. Materials such

as cast iron and steel are suitable conduits for the magnetic flux between the permanent magnets 36. Assemblies can be produced that take advantage of magnetically-soft, rotating articles in a vehicle, such as the engine flywheel, to act as the carrier. The carrier 44 directs the magnetic flux 50 between adjacent magnets 36, where the magnetic flux lines penetrat the area defined by the coil 38 are enhanced by the underlying soft magnetic material of the carrier. Electrical insulation 46 between the coil 38 and the armature core 48 isolates the coil 38, from the armature core 48. It will also be apparent that the magnetic flux 50 penetrating the area defined by the coil 38, can also be greatly enhanced through a symmetric arrangement of magnets on either side of the coil 38. The concentration of magnetic flux lines by the judicious arrangement of soft magnetic elements will increase the effective power density of an electric machine employing this construction.

Please delete paragraph 60 as shown below:

Please add paragraph 60 as shown below:

[0060] In some cases both field and armature functions are combined into a single stationary winding and the rotating element is shaped in order to create a saliency in the magnetic circuit (e.g., synchronous reluctance and switched reluctance machines). The saliency provides a preferred path for the magnetic flux to flow and creates the opportunity to generate reluctance torque. This type of machine is often considered the simpler to build, since the rotating element is a single medium, passive device.